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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/534,868

12/23/2005

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2503-1149

6723

466 7590 05/22/2007
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EXAMINER

DAVIS, BRIAN J

ART UNIT

PAPER NUMBER

1621

MAIL DATE

DELIVERY MODE

05/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,868	Applicant(s) FRANCESCUTTI ET AL.	
	Examiner Brian J. Davis	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/12/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Clarification

The examiner notes for clarity of the record that despite applicant's assertion that claim 11 has been canceled (5/12/05 preliminary amendment), there is no claim 11 of record in the application.

Claim Objections

Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of claim 3 recites the definition of applicant's "stabilized" nitric acid as it appears in the specification (page 3, second full paragraph). However, this "stabilized" nitric acid must be the very same "stabilized" nitric acid of the independent claim, since there is no other definition of what it might be.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 6, 8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. The term "stabilized" is unclear because it is undefined. Resolution of the indefiniteness of this term is critical, since the instant "stabilized" nitric acid is the key to applicant's invention.

The remaining claims are also rejected under 35 USC 112, second paragraph, as claims which depend from indefinite claims are also indefinite. *Ex parte Cordova*, 10 USPQ 2d 1949, 1952 (PTO Bd. App. 1989).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1,040,139, cited by applicant in the IDS.

Applicant claims a nitration process for alcohols of formula (II) to yield the compounds of formula (I) (claim 1). The dependent claims further define the process.

GB 1,040,139 teaches a method for partially nitrating aliphatic monomeric alcohols containing up to 5 hydroxyl groups in a two-phase reaction medium consisting of nitric acid and a chlorinated hydrocarbon solvent (page 1, line 41). Example 1 teaches a composition of 85% nitric acid and urea, pentaerythritol and methylene chloride (page 2, line 16).

Applicant principally distinguishes over the prior art in that a particular set of starting alcohols is specified. However, as GB 1,040,139 makes explicitly clear, the prior art reaction is a general and widely applicable reaction for aliphatic monomeric alcohols containing up to 5 hydroxyl groups. The instant set of compounds is encompassed by the prior art teachings and one of ordinary skill in the art at the time of the invention would have found the instant nitration reaction obvious given the general teachings of GB 1,040,139. Claim 3 is included in this rejection because nitric acid which is substantially free of nitrous acid and nitrogen oxides is intrinsic to the prior art (see the rejection of claim 10 below). Claims 6-8 are included in this rejection because

Art Unit: 1621

they represent mere engineering expediciencies – absent unexpected results. Case law seems clear on this point: It is well established that merely selecting proportions and ranges is not patentable absent a showing of criticality. *In re Becket*, 33 USPQ 33 (CCPA 1937). *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971). (See also *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Merely modifying process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality.)

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1,040,139, cited by applicant in the IDS.

Applicant claims a nitration mixture.

GB 1,040,139 teaches a method for partially nitrating aliphatic monomeric alcohols containing up to 5 hydroxyl groups in a two-phase reaction medium consisting of nitric acid and a chlorinated hydrocarbon solvent (page 1, line 41).

Claim 9 is a product-by-process claim and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) MPEP 2112.02. That being the case, applicant distinguishes over the prior art only in that a nitration mixture of a particular set of compounds in a water-

Art Unit: 1621

immiscible organic chlorinated solvent is claimed. However, as GB 1,040,139 makes explicitly clear, the prior art reaction (which produces a nitration mixture) is a general and widely applicable reaction for aliphatic monomeric alcohols containing up to 5 hydroxyl groups. The instant set of compounds is encompassed by the prior art teachings and one of ordinary skill in the art at the time of the invention would have found the instant nitration mixture obvious given the general teachings of GB 1,040,139.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1,040,139, cited by applicant in the IDS, in view of US 1,596,622 and US 2,294,849.

Applicant claims "stabilized" nitric acid.

GB 1,040,139 teaches a method for partially nitrating aliphatic monomeric alcohols containing up to 5 hydroxyl groups in a two-phase reaction medium consisting of nitric acid and a chlorinated hydrocarbon solvent (page 1, line 41). Example 1 teaches a composition of 85% nitric acid and urea (page 2, line 16).

US 1,596,622 teaches that it is well known in the art that the presence of oxides of nitrogen in nitrated organic compounds causes instability and that urea, inter alia, will remove such oxides (column 1, line 1).

US 2,294,849 teaches that it is well known in the art to use urea during nitration reactions to decomposes nitrous acid (column 1, line 40).

Applicant distinguishes over the prior art in that the nitric acid is claimed to be substantially free of nitrous acid and nitrogen oxides. However, the 85% nitric acid and urea composition of GB 1,040,139 will intrinsically be substantially free from nitrous acid

Art Unit: 1621

and nitrogen oxides, since urea has been added and it is well-known in the prior art, as evidenced by US 1,596,622 and US 2,294,849, that urea decomposes these compounds.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 2,981,617; US 2,760,845; US 3,019,081; US 3,063,945; US 3,113,836; and US 5,741,432 are cited to show related stabilizations of nitric acid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Davis whose telephone number is 571-272-0638. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached at 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


BRIAN DAVIS
PRIMARY EXAMINER
Brian J. Davis
May 5, 2007